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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,707	08/30/2001	Alexandra Da Rocha	Q65817	6236

7590 08/25/2004

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EXAMINER

CHOW, MING

ART UNIT PAPER NUMBER

2645

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/941,707

Applicant(s)

DA ROCHA ET AL.

Examiner

Ming Chow

Art Unit

2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4,5 and 8 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters as stated in objections below.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### *Claim Objections*

2. Claim 1 recites "the speed" (line 10). There is insufficient antecedent basis for this limitation in the claim. The phrase should be changed as "a speed".

Also, claim 1 recites "its input" (line 3) is not clearly defined. The phrase should be changed as "the pathfinder's input".

Also, the term "multipath signal" in claim 1 is not clearly defined. There are multiple signals being transmitted through multipath and cannot be claimed as "a signal" (singular). Therefore, the phrase should be changed as "multipath signals".

Also, the term "whose input" in claim 1 (line 12) is not clearly defined. The phrase should be changed as "said receiver device's input".

3. Claim 4 recites "the phase" (line 3). There is insufficient antecedent basis for this limitation in the claim.

Also, claim 4 recites "the speed at time n", "the two phases", "the carrier frequency", "the sampling period of the channel coefficients", "the phase of the channel coefficient at time n", "the phase of the channel coefficient at time n+p". There is insufficient antecedent basis for these limitations in the claim. These phrases should be changed as "a speed at time n", "a two phases", "a speed of light", "a carrier frequency", "a sampling period of the channel coefficients", "a phase of the channel coefficient at time n", "a phase of the channel coefficient at time n+p".

4. Claim 5 recites "the power profile" (line 2). There is insufficient antecedent basis for this limitation in the claim. The phrase should be read as "a power profile".

Also, claim 5 recites "the phase variation" (line 4), "the average estimation error" (line 6), "the instantaneous speed" (line 8), "the convergence time" (line 10). There is insufficient antecedent basis for these limitations in the claim. These phrases should be read as "a phase variation", "a average estimation error", "a instantaneous speed", "a convergence time".

5. Claim 8 recites "the time constant" (line 1-2). There is insufficient antecedent basis for this limitation in the claim. The phrase should be read as "a time constant".

***Drawings***

6. The drawings are objected to because proper legends, items 4, 5 Fig. 1, were missing. A proposed drawing correction or corrected drawings are required in reply to the Office Action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

**ALLOWABLE SUBJECT MATTER**

1. Claims 1-8 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Upon close review of the claims, the prior art and applicant's remarks it appears that the allowance of claims 1-8 is appropriate. Several prior arts have been identified however they are not pertinent for rejections to the current application as stated below.

M. Sakamoto et al (Adaptive channel estimation with velocity estimator for W-CDMA receiver) teach a method of channel selection based on estimation of a velocity estimator

Parr et al (US: 5513221) teach a method and device of adjusting an equalizer in response to relative velocity between a communication receiver and a transmitter.

Abe et al (US: 6463049) teach a method of determining the transmission wait time by an internal delay counter.

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Takahashi et al (US: 5912886) teach a system of radio channel synchronization among various base stations.

Sawyer (US: 6539004) teaches a method of synchronization of packetized signals to base stations.

All of the identified prior arts did not teach a receiver device of a mobile communication unit. The mobile receiver device comprises a pathfinder for determining time-delays, a combiner circuit has a first input for receiving multipath signals, a channel estimator with a first input for receiving multipath signals, A channel estimator estimates channel propagations, a speed estimator for estimating the speed of the mobile communication unit, and selecting an appropriate Wiener filter corresponding to the estimated speed.

### *Conclusion*

7. Any inquiry concerning this application and office action should be directed to the examiner Ming Chow whose telephone number is (703) 305-4817. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang, can be reached on (703) 305-4895. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377. Any response to this action should be mailed to:

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**Commissioner of Patents and Trademarks**

**Washington, D.C. 20231**

**Or faxed to Central FAX Number 703-872-9306.**

Patent Examiner

Art Unit 2645

Ming Chow

(C)

**FAN TSANG**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**

